CLAIMS

1 A method for the detection of a polymorphism in OATPC in a human, which method comprises determining the sequence of the human at at least one of the following polymorphic positions:

positions 510, 696, 1299, 1312, 1347, 1561, 2028, 2327 and 2342 in sequence of the OATPC gene as defined by the position in SEQ ID NO: 1;

positions 400, 405, 488 and 643 in OATPC polypeptide defined by position in SEQ ID NO: 2;

positions 321 and 1332 defined by position in SEQ ID NO 3;

position 41 defined by position in SEQ ID NO 4;

positions 109 and 244 defined by position in SEQ ID NO 5;

positions 117 and 283 defined by position in SEQ ID NO 6;

positions 209 and 211 defined by position in SEQ ID NO 7;

positions 63 to 68 defined by position in SEQ ID NO 8;

position 53 defined by position in SEQ ID NO 9;

position 75 defined by position in SEQ ID NO 10;

position 162 defined by position in SEQ ID NO 11; and

positions 84 defined by position in SEQ ID NO 12.

2 Use of a method as defined in claim 1 to assess the pharmacogenetics of a drug transportable by OATPC.

3 A polynucleotide comprising at least 20 bases of the human OATPC gene and comprising an allelic variant selected from any one of the following:

Region	variant	Position in SEQ ID NO	SEQ ID NO
Exon 4	A	510	1
Exon 5	T	670	1
Exon 5	T	696	1
Exon 9	G	1299	1
Exon 9	A	1312	1
Exon 9	A	1347	1
Exon 10	C	1561	1
Exon 14	C	2028	1
3'UTR	Insert T	2327	1
3'UTR	C	2342	1
Promoter	G	321	3
Promoter	C	1332	3
Intron 1	A	41	4

Intron 2	G	109	5
Intron 2	G	244	5
Intron 3	A	117	6
Intron 3	A	283	6
Intron 4	A	209	7
Intron 4	A	211	7
Intron 4	Deletion CTTGTA	63	8
Intron 6	T	53	9
Intron 9	Insert TTC	75	10
Intron 11	Insert T	162	11
Intron 12	C	84	12

4 A nucleotide primer which can detect a polymorphism as defined in claim 1.

5 An allele specific primer capable of detecting a OATPC gene polymorphism as defined in claim 1.

6 An allele-specific oligonucleotide probe capable of detecting a OATPC gene polymorphism as defined in claim 1.

7 Use of an OATPC polymorphism as defined in claim 1 as a genetic marker in a linkage study.

8 A method of treating a human in need of treatment with a drug transportable by OATPC in which the method comprises:

i) detection of a polymorphism in OATPC in the human, which detection comprises determining the sequence of the human at one or more of the following positions:

positions 487, 510, , 554, 670, 696, 819, 820, 1299, 1312, 1347, 1561, 2028, 2327 and 2342 in sequence of the OATPC gene as defined by the position in SEQ ID NO: 1;

positions 130, 152, 174, 241, 400, 405, 488 and 643 in OATPC polypeptide defined by position in SEQ ID NO: 2;

positions 321 and 1332 defined by position in SEQ ID NO 3;

position 41 defined by position in SEQ ID NO 4;

positions 109 and 244 defined by position in SEQ ID NO 5;

positions 117 and 283 defined by position in SEQ ID NO 6;

positions 209 and 211 defined by position in SEQ ID NO 7;

positions 63 to 68 defined by position in SEQ ID NO 8;

position 53 defined by position in SEQ ID NO 9;

position 75 defined by position in SEQ ID NO 10;

position 162 defined by position in SEQ ID NO 11; and

positions 84 defined by position in SEQ ID NO 12.

and determining the status of the human by reference to polymorphism in the OATPC gene; and

ii) administering an effective amount of the drug.

9 A method according to claim 8 wherein the drug is a statin.

10 A method according to claim 8 wherein the drug is rosuvastatin.

11 An allelic variant of human OATPC polypeptide comprising at least one of the following:

a leucine at position 400 of SEQ ID NO 2;

an isoleucine at position 405 of SEQ ID NO 2;

an arginine at position 488 of SEQ ID NO 2;

a phenylalanine at position 643 of SEQ ID NO 2;

or a fragment thereof comprising at least 10 amino acids provided that the fragment comprises at least one allelic variant.

12 An antibody specific for an allelic variant of human OATPC polypeptide as defined in claim 11.